

WHAT IS CLAIMED:

1. A method of making a microarray comprising the steps of:
 - providing a support;
 - coating on the support a fluid composition containing microspheres and gelatin;
 - immobilizing the microspheres in the gelatin coating;
 - partially digesting the gelatin with an enzyme to expose surfaces of the microspheres; and
 - removing the enzyme and digested gelatin from the coating.
2. The method according to claim 1 wherein the composition is coated on the support using machine coating.
3. The method according to claim 1 wherein the immobilization of the microspheres is preserved upon gelation of the gelatin.
4. A method according to claim 3 wherein the coating composition undergoes rapid gelation by chill setting immediately after coating.
5. A method according to claim 1 wherein the enzyme is esperase, alcalase, savinase, or papain.
6. A method according to claim 1 wherein enzyme digestion is terminated by immersing the support with the gelatin coating into a solution that contains no enzyme.
7. A method according to claim 6 wherein the solution that contains no enzyme is an aqueous solution.

8. A method according to claim 1 wherein the microspheres have surfaces exposed above the gelatin layer.

9. A method according to claim 8 wherein the exposed surfaces are substantially free of gelatin.

10. A method according to claim 8 wherein the exposed surfaces of the microspheres bear nucleic acid probes.

11. A method according to claim 10 wherein the nucleic acid probes on the surfaces of the microspheres are oligonucleotides, DNA, DNA fragments, PNAs, or synthetic molecules capable of interacting specifically with a nucleic acid sequence.

12. A microarray comprising: a support having at least one surface containing microspheres immobilized in a gelatin coating; wherein a first portion of the microspheres is submerged in the gelatin coating and a second portion is exposed above the gelatin coating and is substantially free of gelatin.

13. A microarray according to claim 12 wherein the immobilization of the microspheres on the gelatin coating is preserved upon gelation of the gelling agent.

14. A microarray according to claim 12 wherein the microspheres bear chemically active sites.

15. A microarray according to claim 14 wherein the chemically active sites comprise nucleic acid.

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16. A microarray according to claim 12 wherein the support comprises glass, plastic, cellulose acetate, or polyethyleneterephthalate.

17. A microarray according to claim 12 wherein the support is flexible.

18. A method of making a microarray comprising the steps of:

--providing a support;

--coating on the support a fluid composition containing microspheres and gelatin; and

--immobilizing the microspheres on the support by allowing gelation of the gelatin; wherein the support has no predetermined sites to attract the microspheres.

19. A method according to claim 18 wherein the composition is coated on the support using knife coating, blade coating or slot coating.

20. A method according to claim 1 or 18 wherein the composition is fluid during coating and the microspheres become randomly immobilized on the support in the plane of coating upon gelation of the gelatin.